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The problems of rural schools are characterized by: an inability to hire enough well-prepared, versatile, and resourceful teachers and to retain them over a period of years to assure program continuity; inadequate curriculum offerings and equipped classroom space; decreasing enrollment; lack of recognition and encouragement to teachers already on the job; and logistic problems of time, numbers and space. Solutions to the problems involve: the reorganization of school district lines and the consolidation of schools where reasonable, thus reducing needless duplication of buildings, teachers and materials; the sharing of services among several schools which one school cannot by itself afford or justify; and a modification of instruction methods, enabling the teacher to make a more effective use of time.

It was found that multi-classes enrich the curriculum of small schools, and that scheduling longer periods provides additional help to slow students and more challenging assignments to advanced students. Small group techniques stimulate instructors professionally and allow them to give more individual help to students. Film courses assist in increasing the curriculum offerings and improving instruction. Recordings are an aid to both teachers and students, enabling the voices of master teachers and foreign languages to be brought into any remote classroom. Correspondence courses are used to enrich the curriculum and to provide courses which could not otherwise be offered.

Both the student and teacher response to the Project was highly favorable. Evaluation teams recommended that Project classes be continued and that other small schools be encouraged to participate in the Project.

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THE SMALL HIGH SCHOOL

Colorado Accepts the Challenge

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The Rocky Mountain Area Project for Small High Schools

A Report to Citizens • 1961

Colorado State Department of Education • Denver

Byron W. Hansford, Commissioner

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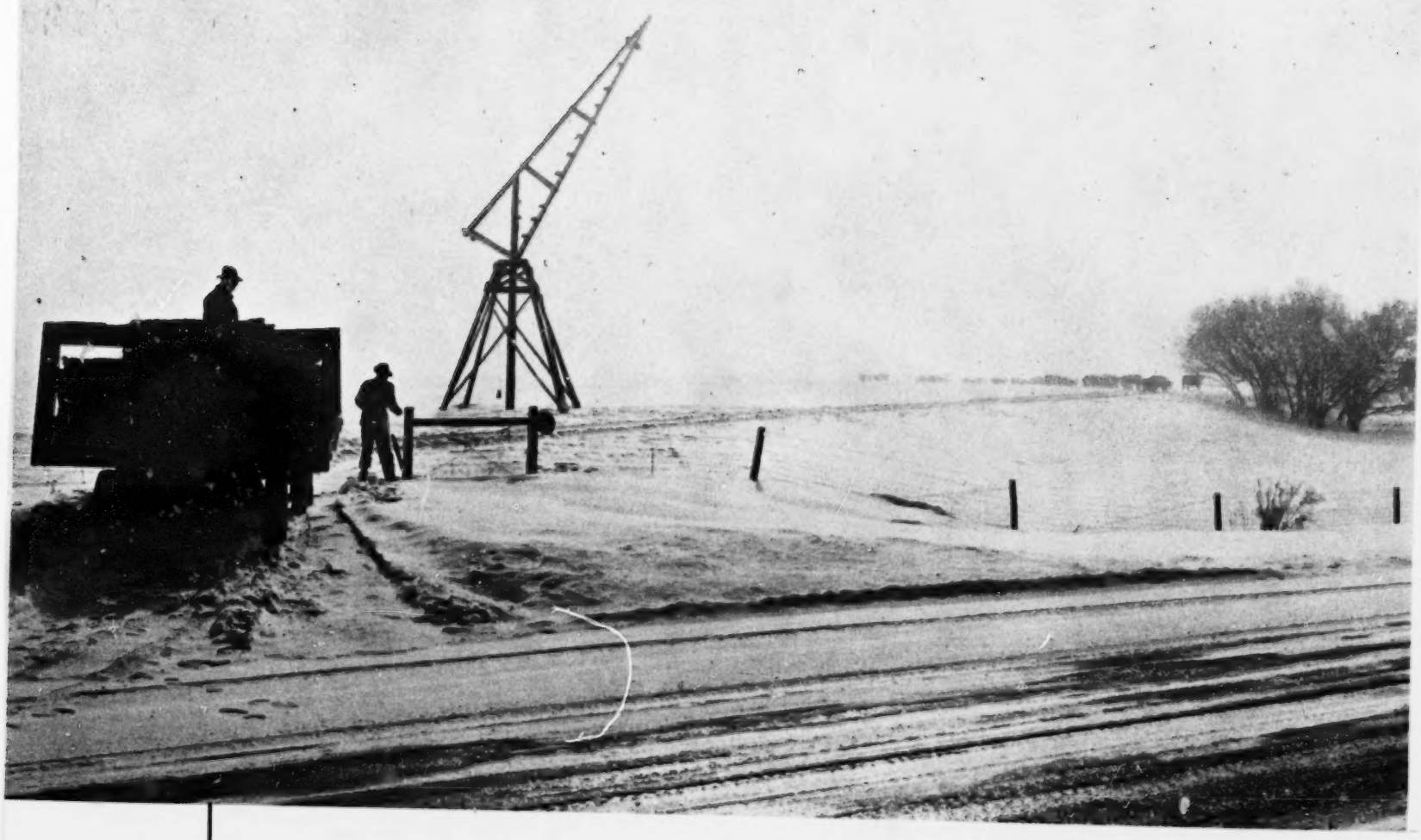

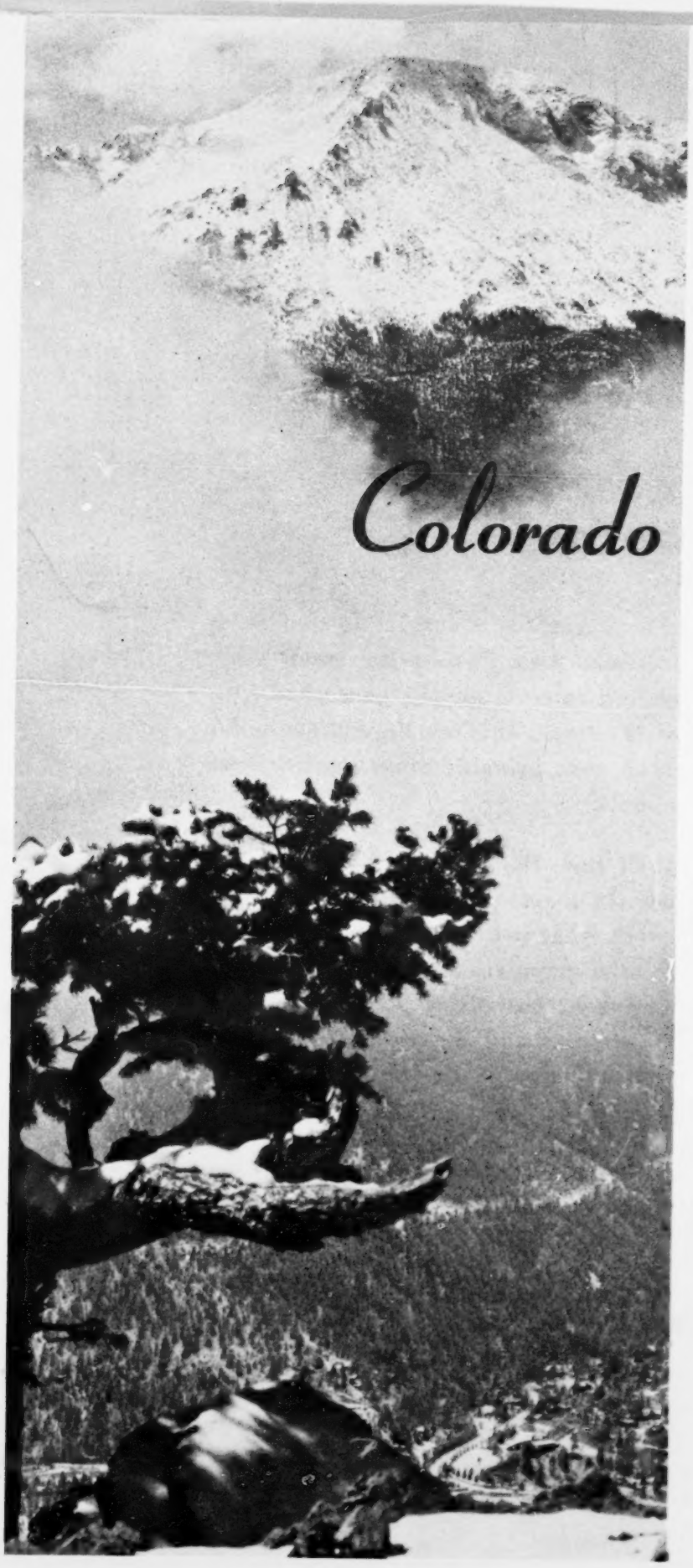

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INSTRUCTIONAL TECHNOLOGY - U.S.C.

THE SMALL HIGH SCHOOL

Colorado Accepts the Challenge

The Rocky Mountain Area Project for Small High Schools

A Report to Citizens

1961

Leo P. Black, ***Assistant Commissioner***
Office of Instructional Services

Clifford F. S. Bebell, ***Director***
Elementary and Secondary Education

Ralph G. Bohrson, ***Director***
Rocky Mountain Area Project

Colorado State Department of Education
Denver 2, Colorado

Text by Wanda Beal
Photos by Myron Wood

FOREWORD

This publication has been developed as a result of a conviction that there are many outcomes from the Rocky Mountain Area Project for Small High Schools which will prove to be of interest and value to anyone concerned with improving the quality of instruction in small schools. It is our hope that similar research results will be widely disseminated, thus bringing more light to bear on the solution of the problems of small schools.

The RMAP was started by the Colorado State Department of Education in October 1957 and has been financed largely by a grant from the Ford Foundation. This project resulted from a commitment to try to help "necessarily existent small high schools" which because of terrain, population sparsity, and other factors, must continue to exist. This undertaking has amply demonstrated the fact that state departments of education, colleges and universities, and local school systems can cooperatively undertake, and successfully complete, research for instructional improvement.

This project has once again proven that the general public is interested in materially improving their schools if proper leadership exists. It also demonstrates that excellent schools can exist under unlikely circumstances.

Various results of the RMAP will warrant serious consideration by people interested in improving education in schools of any size. It is our sincere hope that the seeds sown by this project will continue to bear fruit for many years to come and that further experimentation will be equally profitable.

Byron W. Hansford
Commissioner of Education

PREFACE

This document has been one and one-half years in preparation. It is written especially for persons not directly involved in the field of professional education. Although it is felt that the information contained is valuable for all people who are interested in America's public schools, it excludes technical terminology ordinarily associated with the profession of education.

The general objective of this publication is to provide some dramatic information regarding the activities of the RMAP and the resultant attitudes which teachers and youngsters have expressed toward the program. The names of the people are not fictitious. They are actually those who have done the jobs in the Project schools and who have documented in one manner or another their methods so that these may be used by other teachers if they desire. Some of the Project people have moved on to college work, have taken other jobs, or, in some cases, have retired from teaching in order to rear families. Their practices and ideas, however, often remain in the schools where they participated. Sometimes the practices which were pioneered in the Project schools have moved with the teachers to non-project schools.

Therefore, in many cases, the teaching methods have broad applications. Another objective of this publication is to provide a description of activities which can be passed along. It is felt that the best way of recognizing good practices is to present them in company with the names of the people who have developed and tried them. There is little doubt, however, that the practices can be transmitted from person to person and school to school without their being identified with the original architect.

The general text and creative word pictures have been done by Mrs. Wanda Beal of Limon, Colorado. Mrs. Beal was requested to do this job because she is a professional free-lance writer, a parent, and interested PTA member. She has had some experience in teaching and has an understanding of the problems of public school education without having been deeply involved in the technical aspects of educational programs. The photography was done by Myron Wood of Colorado Springs, Associate, American Society of Magazine Photographers. Its quality speaks for Mr. Wood's competence. Initial layout work was done by Mrs. Beal and others. Major editorial revision and layout modifications have been accomplished by Frank Anderson of the RMAP staff. The Project owes much to this team of creative individuals.

Ralph G. Bohrson, *Director*
Rocky Mountain Area Project for
Small High Schools

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The Problem and The Solutions

This is a typical winter scene in eastern Colorado where some children ride radio-equipped buses up to 75 miles one-way to school each day.

"Children, like gold, are where you find them, and like gold, they must be refined by experts. Expert teaching is as essential to the necessarily existent small school as it is to the large school. *The Rocky Mountain Area Project for Small High Schools* is blazing the trail for expert teachers in rural education."

Dr. Elbie Gann, Assistant Commissioner, Office of Administrative Services, Colorado State Department of Education

TO dream about what schools should be like is one thing, but as Dr. Gann implies, to face the problems of rural education as they exist in Colorado today requires that a realistic and thoughtful approach be made to a situation involving nearly 42,000 high school youngsters. The Rocky Mountain Area Project (RMAP) is facing these problems by testing the supposition that the small school can do more than merely pattern itself after the organization and design of the large school. Effective operation and educational needs must be met by using methods which are unique to certain necessarily existent small schools.

In Colorado, the little red school houses are growing up. Students arrive for classes in radio-dispatched buses and an increasing number of youngsters are planning on a college education instead of merely an eighth-grade graduation.

Major segments of Colorado are still wild and isolated. Fifty-two mountain peaks stand 14,000 feet or more above sea level. Pockets and valleys between ridges and peaks hold villages. These villages have schools.

In Eastern Colorado, families live far apart, separated from others by sections of wheat land and by miles of cattle range land. In some places, the cattle, wild burros, and horses outnumber humans.

Silverton, Colorado, nestled high in the San Juan mountains in southwest Colorado, is isolated much of the winter.

The Plains

Driving through Lincoln County during a sudden plains blizzard is a frightening experience. The sun fights a losing battle with black storm clouds and soon the foothills disappear into the sky behind and there is no longer any horizon. The road rapidly disappears into miles of white swirling snow. Snow seldom comes straight down on the plains. It blows. Drifts pile up to trap cars and the wind drives cattle into fence rows. Teachers are sometimes reluctant to settle in these areas.

The Mountains

Silverton, in San Juan County, is a 100 percent mining town, 9300 feet high in the western Colorado Rockies. Silverton is located at the upper end of the Million Dollar Highway. Weather is a factor here also in obtaining and keeping teachers. As one native put it, "There are only two seasons in Silverton, winter and the Fourth of July."

The snow doesn't blow in the mountains. It piles up . . . until snowbanks are as high as the roof eaves. Because in Silverton and other mountain towns nearly everyone lives within walking distance of the school, few days are ever lost when it snows. But in some areas there are snowslides which close the highway and isolate the town. There is no patent answer to the question, "How can all schools become adequate in size of enrollment and of teaching staff?"

Towns where small schools exist are predominantly family areas. These communities offer limited entertainment opportunities for young, single teachers, thus making it difficult to employ and retain such persons. Bouts with bad weather and obtaining teachers are only two of the small schools' problems.

Problems of Rural Schools

A more complete list of handicaps includes:

1. Hiring enough teachers who are well-prepared, versatile, resourceful and dedicated.
2. Retention of teachers over a period of years to assure continuity of program.
3. Offering a broad enough curriculum to assure adequate preparation of youngsters.
4. Providing appropriate, well-equipped classroom space and materials for all modern purposes.
5. Overcoming problems of logistics—time, numbers, space.
6. Decreasing enrollment and the changing nature of America's society from rural to suburban and urban.
7. Lack of recognition and encouragement of capable teachers in small communities.

Most of these problems can be attributed directly to limited funds. Many rural areas have a low valuation and, therefore, inadequate plant facilities, inadequate salary schedules, and less than adequate equipment. Other problems result from the casual attitudes of community members toward their schools. Despite problems, there are teachers who prefer rural areas. They also like recognition and encouragement.

At this point the Colorado State Department of Education and the Rocky Mountain Area Project enter the picture. They suggest three basic solutions to the problems stated:

Some Solutions to the Problems

1. **Reorganization of school district lines and possible consolidation of schools where reasonable. This provides a broader financial structure and sometimes reduces needless duplication of buildings, teachers, and materials.**
2. **Sharing of services with several schools which one school cannot by itself afford or justify in terms of cost per student.**
3. **Modification of methods of instruction. This enables the teacher to be more effective in the use of his ever-limited time.**

Consolidation has been carried out to some extent under Colorado's far-reaching school district reorganization program. Also some shared programs are being tried. However, the third item listed above is the one to which the Colorado State Department of Education's Rocky Mountain Area Project has addressed itself.

For the past three and one-half years, the department, backed in part by a grant from the Ford Foundation's Fund for the Advancement of Education, has encouraged the development, demonstration and documentation of ways in which teachers in small high schools can provide excellent learning opportunities for all students . . . for the benefit of all taxpayers as well. A most surprising fact is that the cost is relatively low.

These specially designed ways of teaching listed below should help schools take advantage of the *strengths of smallness.*

1. **Multiple Classes** let the teacher offer two or more subjects simultaneously in a single classroom.
2. **Small Group Techniques** allow the use of intra-class instructional methods to help students participate in activities designed particularly for their unique interests, abilities, needs and understandings.
3. **Use of Technical Resources** provides the teacher with equipment and other contrived aids which enable him to do a better job of creating effective learning opportunities for youngsters.
4. **University-developed Correspondence Courses** when used by students enable schools to offer additional subjects. The teacher is able to purchase for his students a ready-made lesson guide, thereby providing him time to enrich his own presentation.
5. **Use of Community Resources**—people, places and things—enables the classroom teacher immeasurably to enrich his youngsters' learning opportunities within the community.

The foremost philosophy of the Project suggests that, by his awareness of each student's needs and interests, the teacher is able to adjust *his teaching* and counseling to the understandings and abilities of the youngsters; rather than expecting *all* students to *somehow find abilities they don't possess* in order to benefit from the academic level at which the teacher normally lectures. Proper selection of multi-level materials can greatly assist the teacher in providing for the normally broad spectra of abilities and interests he finds among his students. This principle is workable and practical because the pupil-teacher ratio is so low.

Multiple Classes in Action*

A definition of multiple class teaching: "The instruction by one teacher of two or more high school subjects simultaneously in one classroom."

In this multiple class, the instructor works with students in Shorthand II (foreground) while Shorthand I students work on their own study projects in another part of the room. Shorthand I students can call on the teacher at any time for aid in their assignments.

AT Ridgway, the class bell rings and 22 students enter Mrs. Joy Wilson's room. Twelve of them arrange their desks in a semicircle at the front of the room, open their American History texts, and prepare for a discussion period. At the same time, the other 10 students have taken seats in the back of the room and are listening to Mrs. Wilson explain their written assignment in American Government. After answering questions from the government group, Mrs. Wilson joins the discussion group. When students in the study group have finished their assignment, they sign out on the blackboard for library research or for typing of their project work. This is an example of one way in which a teacher supervises two classes in the same room at the same time.

At Arriba, in Lincoln County, History of Russia and Development of Communism are being taught simultaneously, as are Spanish I and II at Simla. At Ouray, Mrs. Rita Paul combines Latin I and II and says, "I'd even be willing to teach Latin III at the same time." At Mosca, Mrs. Katy Westerman combines bookkeeping and shorthand. Typing and shorthand are taught successfully together at Bennett by Armando Atencio.

Typing and bookkeeping are combined at Kremmling under the direction of Miss Louise Head. In

*Editor's Note: It is suggested elsewhere in project literature that multiple class teaching can assist the small school to provide needed courses by making more effective use of the teacher's time. Mrs. Beal's examples suggest several ways in which multiple class teachers can function.

this case, a double room, divided by a hallway, allows the teacher to step a few feet in either direction to supervise the two classes. A syllabus of assignments is handed to the typing students who then work at their own speed. Miss Head explains, "The bookkeeping students also have a text slanted toward students who are working on their own initiative. I think it is a challenge for them to figure out some of the lessons alone . . . they seem to enjoy themselves. There's no discipline problem . . . there never is when students are doing things for themselves and are not being pushed beyond their time limits." Miss Head is always there, however, when they need her assistance.

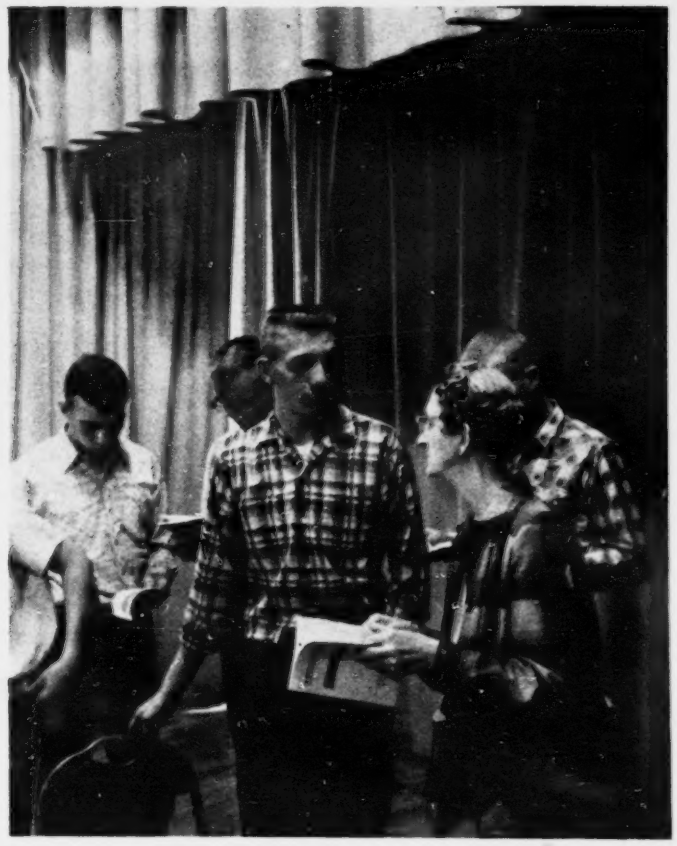
Back at Ridgway, Mrs. Eleanor Howell has 11 speech students together with five drama students in a multiple class arrangement. Drama is offered to challenge the better speech students who use the tape recorder to assist them in their independent effort.

Juniors and seniors at Ridgway enter a basement room for their physics film. The blinds are adjusted and a student projectionist starts the film, while others prepare for note-taking. Meanwhile, across the hall, Dean Munger, the teacher, is leading the General Science class in a discussion period. These students will then study while Mr. Munger expands upon the film and gives individual attention to the physics students.

Homemaking classes have often been combined in the past. Miss Beverly Raven of Woodlin comments, "I would suggest double classes through administrative encouragement and teacher training. I've found other teachers at summer school very interested in such an arrangement. It is rare that we have a discipline problem in my dual classes . . . everyone is working at her own speed . . . of course, we've always encouraged student participation in homemaking. They help with unit planning and we also break down into small groups with students working on different projects."

Most schools offer the multiple classes only to the older students who have learned to work alone part of the time. Some teachers advocate no combination classes below the tenth grade. Older students are more settled and don't tend to let noise distract them, teachers say. Opinions differ here. The teachers of Ridgway, a six-year high school, work with their eighth and ninth graders in double classes. "It's simply a matter of orientation," stated Superintendent James Donahue. "Students are capable when they are challenged and when they know what is expected of them. They like being on their own . . . gives them a feeling of accomplishment."

Earl Barrick at Silverton teaches Typing I and II at the same time and says, "The turmoil and discussion doesn't bother either class . . . typists have to be able to go ahead no matter what. The only



Multiple classes permit a teacher to be in two places at the same time. Students in speech (above) listen to the teacher's taped presentation, while in a nearby room (right) the teacher coaches drama students in person.

thing that I have trouble with is rhythm typing . . . that sometimes confuses the other group. Otherwise, I don't think students even notice it is a multiple class; they adjust to situations quite easily."

The modular scheduling at Ridgway calls for 12 eighth graders to be in one room from 8:40 until 10:30 and to cover English, American History, Colorado History, and Civil Government in that time.

Teacher Paul Wilson explains, "Even the younger ones like the longer period. We can take time from both classes for long films and reports. This is the first time I've taught history and had the students really interested. This may be because of the preplanning; I can't put my finger on it. Our project classes have been better this year than the traditional classes. We've had time to iron out the snags and problems while they were still problems, not the next day when ideas have cooled off. We have gone ahead faster in English so will be able to spend more time in history . . . have more reports and field trips."

Mr. Wilson continues, "The tests I'm giving show the students are getting the material. Outstanding with me is the project planning we have to do. It has helped me and if it is easier to teach, then it is better for the students. I spend more time teaching and giving individual guidance within the class. I try to have a variety of approaches."

Students seem not at all distracted by the double classes. Comments were: "We just get used to it . . . I always have the record player on at home" . . . and, "Well, in an office there are always more things going on than just what one person is doing."

Some teachers believe the multiple classes are more successful if the students are screened first. Also, if the students choose the course, their reaction is more favorable than if they are studying a required subject, but, this is also true of regular classes.

Is each course "watered down"? Teachers think not. It is the same as in other classes . . . some students will be slow and learn less while others will learn faster and retain more.

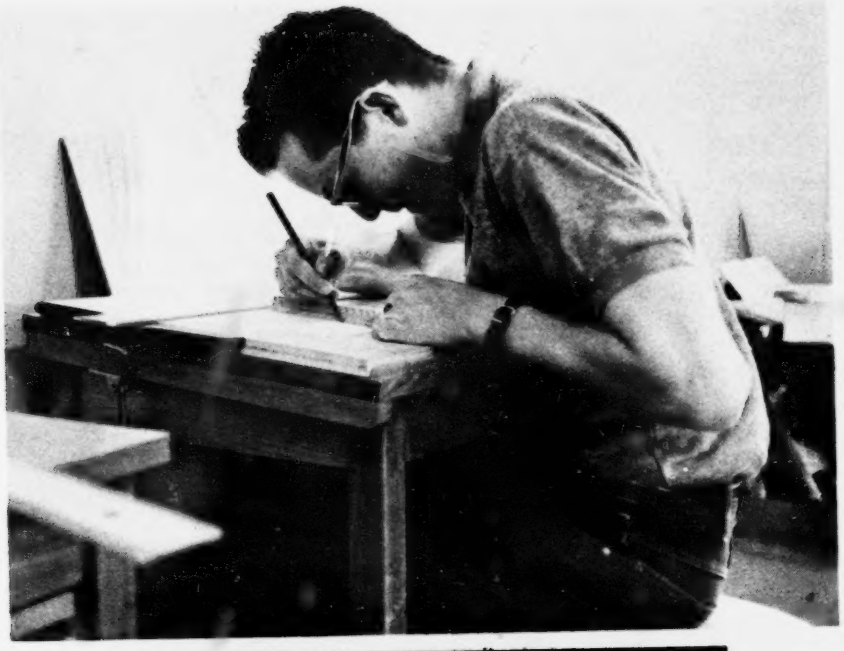
However, setting up a double class isn't easy. Difficulty arises the first week or two when the teacher must get each group started. At Mosca, where three classes are combined in a shop room which is otherwise too large for just one class, Joe Dabney says, "It was bedlam the first week when no one knew what to do and the students all wanted help at once. But soon the lapidary, mechanical drawing and auto mechanics students were all working on their own at different speeds. It was then easy for me to rotate among them for help and checking."

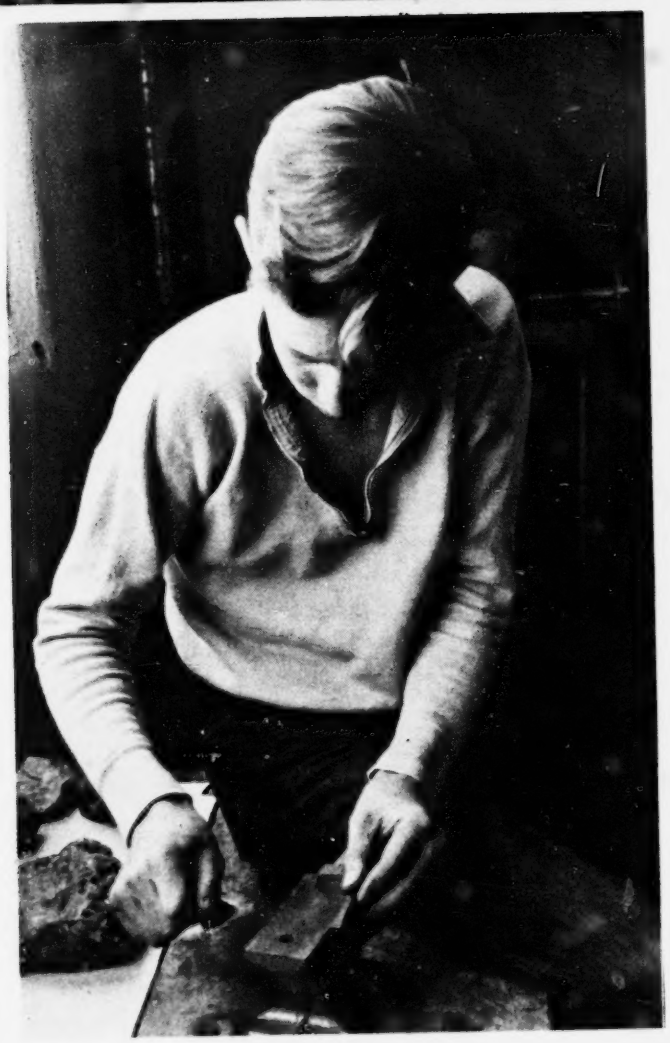
Because teachers are very conscientious people, they are usually apprehensive about setting up double classes. Mrs. Ruth Shoffner, who teaches a dual Home Economics class at Kremmling, voices it this way, "It was hard at first . . . I didn't know whether I could do it or not. I felt needed in each group. Then I realized students must have practice in doing things on their own, and I thought . . . after all, they are getting a class which they wouldn't have otherwise. We feel it has been successful enough so that we will try again next year."

This multiple class of auto-mechanics (above), mechanical drawing (top right), and lapidary (right) is conducted in one room. Students are challenged to educate themselves and individual interests are met.

At San Luis, Abie Duarte teaches 14 students in Shorthand I along with 10 students in Advanced Shorthand. "I haven't had as many dropouts as I usually do because we go more slowly. Other than this, my results have been no better but they have been just as good as in a single class situation. And, of course, we are gaining a subject we couldn't offer otherwise. RMAP practices have made me more aware of the necessity for planning. For instance, I can lecture to one class the same day that the other class is having a test."

Elsewhere in San Luis, five students seat themselves around a table; they adjust earphones. One of the boys starts the tape and all the students begin





taking notes. These students are listening to their Latin teacher, David Aragon, lecture on tape while he also lectures "live" in another part of the classroom to nine Spanish students.

Aragon is able to combine Latin and Spanish successfully because of his personal qualifications. He studied Latin during his seminary days in Europe. In explaining his procedure, he says, "We talk about similarities between the two languages in class. Both have the same endings. It does take extra time each night to tape one lecture, but if that is required to better our curriculum, then I am willing. Students like the fact that they are part of an experiment."

Bookkeeping I has nine students enrolled and is combined with seven students in Bookkeeping II, under the direction of Patrick Payne. "The advanced students are able occasionally to help the beginners. It is good review for them," says Payne. "Our period isn't divided evenly, a teacher has to sense when one group needs more help. Teaching double classes keeps a person more alert, more aggressive, on the ball. We have to resist the tendency to make it easy on ourselves."

Conrad Romero has his classroom full with a double class of 10 American Government students and 20 American Problems students. "The Social Studies are easy to handle in this manner," he explains. "A lot of the materials overlap, enabling us to work as one class. We bring in lots of outside resources to give students firsthand information. We have had lectures by a state representative, a county superintendent, a county judge, a college professor from Adams State College, and Mr. Silver Jaramillo, our superintendent, who talked about the problems of education."

Romero adds, "I am sold on multiple classes. If you have five teachers and each one teaches a double class, and if you pay an extra $200 for planning, for $1,000 a year you get the value of an extra teacher."

Multiple classes work out well, now that there has been exploration of the matter and schools know more about the problem. It seems that courses which are similar in content are more compatible. In fact, multiple classes have been so well documented, teachers have been so successful with them, by their own admission, and in certain cases students have so well retained the material, as shown by standardized tests, that they are now accepted as standard practice in many small schools.

C. L. Stiverson, superintendent at Simla, says, "We feel that the multiple class has proven itself as a valid teaching technique for small high schools . . . it now is part of our established technique. We give our teachers time for preparation."

Melvin McMillan, superintendent at Silverton, says, "I wouldn't think of setting up a double class for a teacher who isn't interested. I do think it gives a teacher a better way of challenging the students. Just to combine a couple of classes to say you have double classes is silly . . . they must serve a definite purpose. This method gives us additional classes we couldn't have otherwise."

THE teachers and students at Ridgway are disciplined clock watchers. Not consciously, of course, for they seem to know when it is about time to move on to the next class. Oh, yes, they have a bell system, but most of the bell ringing has been eliminated because of staggered class periods. It is called a modular schedule because classes are based on modules of ten

The School Schedule—Making It Flexible

minutes and vary in length. More time is given to some classes than to others. Thus, biology and general science periods run 50 minutes while physics lasts 80 minutes.

Superintendent James Donahue says, "The uneven period creates no problem . . . there seems to be less confusion because there are fewer students at a time changing classes. We have actually had less noise in the halls. Students go quietly to their next class because other classes are still in session. Our overflow period takes care of class meetings, pep club, and other activities."

Educators are finding much can be done on the problem of more flexible scheduling. Teachers are learning that they can provide broader and richer educational experiences.

Experimentation using the 70-minute schedule with the "floating period" is in effect at Kremmling, Silverton and Simla.

Silverton's McMillan explains, "This schedule has many advantages. Each class meets four times a week for 70 minutes, which is a total of 280 minutes, ten more than is required by accreditation. The sixth class 'floats' or, rather, meets first period Monday, second period Tuesday, and so on. The last period on Friday is a scheduled activity period so that no regular classes are broken into. Also, this sixth period may be moved all over the week's schedule and may be exchanged with any other period. In case of an assembly, no class periods are lost as they are in a 55-minute schedule, where subjects are taught at the same time each day."

McMillan continues, "There is a psychological advantage . . . the kids like it, it breaks up the day and no two days are ever the same. Seventy minutes gives more time to project work. I know it encourages the teacher to do more projects. A teacher, here for two years, under the traditional schedule, told me that with 70-minute periods he had used the library with his students more in six weeks than he had the whole previous two years. The long period encourages the teacher to give the student work according to individual interests and abilities."

Superintendent McMillan states, "We have a perfect set-up for a near-tutorship at Silverton. I am thinking of taking four or five of my exceptional students and making a personal schedule for them. If they are interested in science, they may spend two periods working on projects . . . turn them loose to get it on their own. You never have to worry about this type of student running around . . . he is reliable and anxious to do advanced work. It is my answer to what to do with the better students in a small system."

At Simla, Stiverson says, "We are pleased with the 70-minute period and the supervised study which takes place within that period. We are providing more for our students now."

Study halls are eliminated with study becoming a part of the class period under each teacher. There is an advantage here because the classroom teacher is available to answer questions and to provide help when needed.

An Example of a Flexible Schedule . . .

Weekly Schedule of Classes for West Grand High

1. All students are registered for six subjects.
2. Classes meeting in periods 1, 2, 4, 5 and 6 meet for 70 minutes four days a week. Third period classes meet for 55 minutes five days a week.
3. Approximately the last one-third of the 70-minute periods will be devoted to supervised study.
4. The sixth period is a floating period and will occur on different days of the week.
5. Students not enrolled in music will be assigned to a study hall.

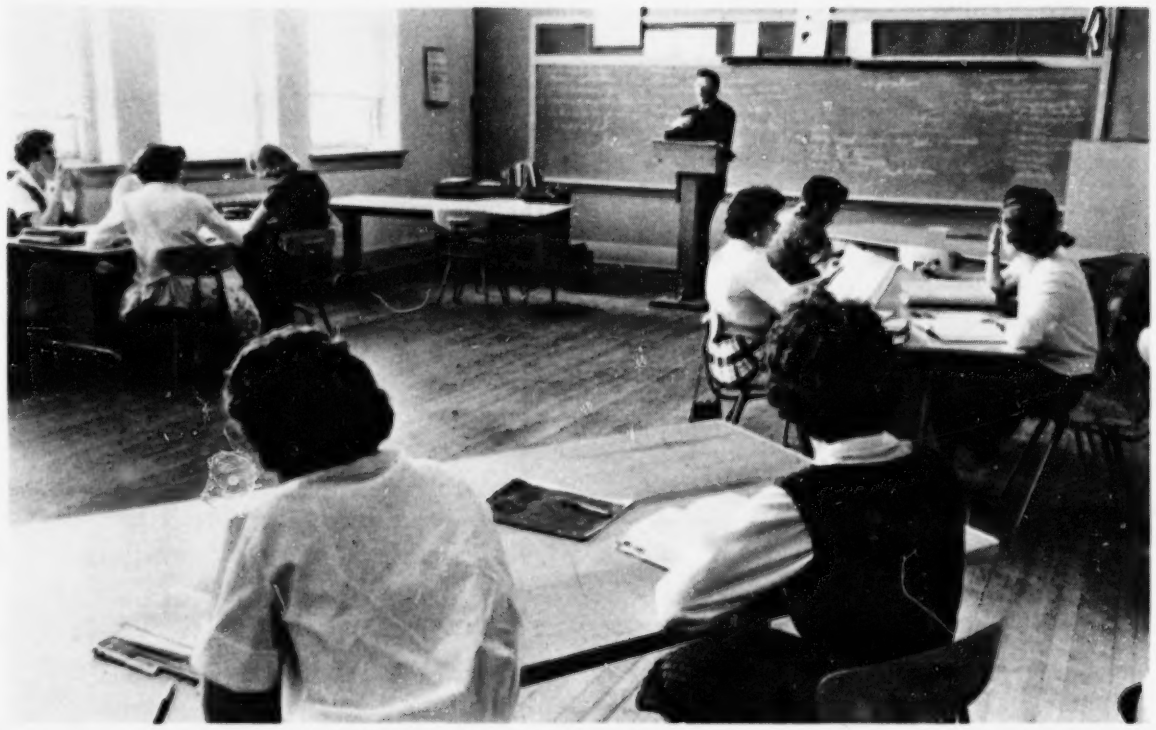
		Mon.	Tues.	Wed.	Thurs.	Fri.
8:37- 9:47	70 min.	6	1	1	1	1
9:51-11:01	70 min.	2	6	2	2	2
11:05-12:00	55 min.	3	3	3	3	3
12:00- 1:00	60 min.	NOON HOUR				
1:00- 1:32	32 min.	MUSIC — ACTIVITY PERIOD				
1:36- 2:46	70 min.	4	4	4	6	4
2:50- 4:00	70 min.	5	5	5	5	6

Before adopting the modular schedule, the West Grand High School used a schedule like the one shown at the right.

	Thursday	Friday
	1	1
	2	2
11:03 12:00	3	3
12:42 1:42	4	4
1:45 2:45	5	5
2:48 3:55	6	6

Grouping Students for Effective Learning

THE bell rang at Simla and Sam Eccher closed the door behind his English IV class. Three girls were arranging their desks in front of the room. Following an outline on the desk in front of her, the first girl stood and began her report. The class was studying 18th Century Literature and these girls were a panel reporting on *Jane Eyre*.



In this English IV class, the students function as separate groups according to their interests and abilities. Following the teacher's introductory presentation, each group of students will study in depth a part of the topic presented and report on it to the entire class.

At Kremmling, during Jim Grogan's American History class, three boys and one girl volunteered to move their chair-desks to the front of the room to lead a panel discussion. Each, in turn, read a passage from his text and then looked up to acknowledge questions from the other members. The teacher sat in the back of the room. He added information, made comments and cleared up certain points, when needed, to keep the discussion going.

Grogan is a serious, philosopher-type teacher who explains, "This panel method has some real value. For one thing, the students are much more interested in what a word means. A panel member must be prepared to give definitions and students always ask about a word which isn't clear to them. They really have fun batting these words and ideas around. This method gets their minds to working . . . I learn a great deal myself this way."

Eccher and Grogan were both dividing students into small groups, according to the students' interests, needs, and abilities. Elementary teachers are taught to use this technique. High school teachers usually only *hear* about it in college. Grouping differs from the double class in that only one subject may be taught but students work in small groups to attack a problem from different angles. It is probable that three or more groups within one class may be at various levels of learning and understanding. What teachers are doing here is challenging the student to move at his own speed, neither losing the slow nor frustrating the fast. Again, this method is directed at inspiring students to "educate themselves."

Mrs. Vira Oswald, named Colorado Teacher of the Year in 1959 by McCall's Magazine, first lectures to her mathematics class on general principles and then gives each student more individual attention than is provided in the usual classroom.

the requirement of each group is to go through the chapter on its own. The ones who progress faster study literature and drama for a broader scope."

At Ouray, Mrs. Vira Oswald has carried the small group technique to its ultimate. She does not have two divisions, or three, but 21! She has 21 students in Algebra I. Each student is working at his own speed.

"It seems to be working," she says. "I really get more out of the slow students because I don't push . . . they are on their own. Each does the work, then checks his answers . . . If there are questions, we work the problems out together. When the students finish a unit, they staple the work together and take a test. A mark of 80 percent is passing; they established that grade themselves. Each student is in a different place so he can't copy . . . work is handed in so it can't be passed around . . . the faster students want to go ahead, they don't waste time helping one another. I am getting more work out of each student than I did the other way."

Mrs. Oswald continues, "Students like to accept responsibility . . . be on their own. They do the work with no prodding. I help each one individually as he needs help. Each must finish a unit and take the test within a certain length of time. The book has a good explanation of each problem. This system is adding to their ability to read and to think for themselves . . . something they couldn't do when they came in here. Before, they wanted everything explained to them."

When asked the question, "Who likes working at his own speed?" everyone in the class raised his hand. Remarks were, "This way gives you a chance to learn by yourself and not depend on a teacher."

"If you get stuck you can work it out by yourself like you have to do in real life."

"Helps you think on your own, but Mrs. Oswald always helps us when we really need it."

Slow students feel they have time to work out the problem . . . fast students are not held back.

Perhaps one of the reasons Mrs. Oswald was honored in 1959 as "Colorado Teacher of the Year" by McCall's Magazine is her own philosophy of teaching. "It seems to me that it is our job to extend each student to the limit of his possibilities."

John Henson, a mathematics teacher, began his project work in Limon. Later at Kremmling, he continued working with small groups in his Algebra I class. Henson feels the success of letting students work on their own depends a great deal on their attitude and whether they have been introduced gradually to accepting responsibility.

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Colorado—Land of Extremes

Rocky Mountain Area Project Schools—January, 1961

- Meeker High
- West Grand County High Kremmling
- McCoy
- Central City High
- Gypsum
- Red Cliff
- Platte Canyon Bailey
- Aspen High
- Lyons High
- Briggsdale High
- Lone Star High
- Woodlin High
- Kiowa High
- Limon High
- Arriba High
- Simla High
- Crested Butte High
- Ridgway High
- Ouray High
- Telluride High
- Silverton High
- Sangre de Cristo High Mosca
- Centennial Union High San Luis
- Bent County High McClave Branch

MAP by LYNDLE DUNN

Map from COLORADO OUTDOORS magazine

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Technical Resources Enter the Classroom

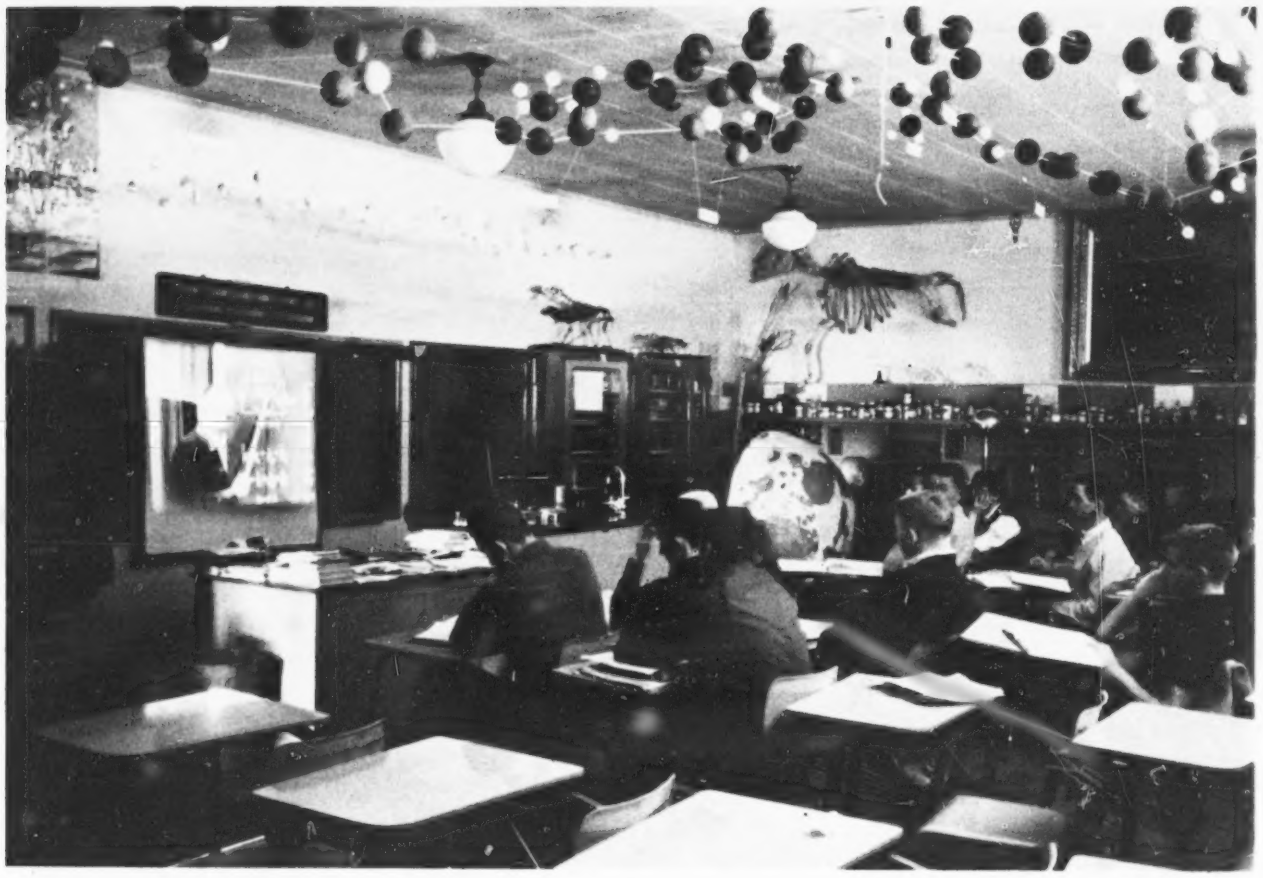
Understanding is increased as this student solves a problem presented in the Harvey White film series. She will seek help from the classroom instructor as needed.

Films—Tapes—Discs—Film Strips

RECENT studies conducted by the Colorado State Department of Education on teacher qualifications showed that 64 percent of the students in small high schools may be taught by chemistry teachers with inadequate academic preparation and about 78 percent were taught by inadequately prepared physics teachers. These students benefit greatly when these teachers are given opportunity to team up with "*experts on film*." One project solution to the problem has been to experiment with use of the Harvey White Physics and John Baxter Chemistry series. Both sets are distributed by Encyclopaedia Britannica Films. Both are complete courses on film which, when combined with the resourcefulness of the local classroom teacher, *should* provide a high quality program.

Joining forces with the films does wonders in helping a teacher with a limited background get a point across to the students. Members of a class

Science films help create 'teacher teams' where one member of the teacher team, Dr. Harvey White, lectures on film allowing the classroom teacher more time to plan experiments and to help individual students with problems following the film presentation. Being able to give individual help is one of the strengths of small schools.



Interest is high as these students prepare to listen to a taped lecture on political science. Because they use earphones, they are not disturbed by another class being taught in another part of the room.

follow the Baxter film or the White film, using a printed guide which points out what to look for in the lecture. Laboratory work generally follows.

Most teachers using the films agree that about a dozen lessons should be filmed in color. However, teachers make a special effort in class to demonstrate certain color phenomena so that the material will come alive for the students. What the film lacks, the teacher can make up for by other means. Expensive models and equipment, not often found in schools, are demonstrated and used in the film lessons.

In the San Luis Valley at Mosca, in Alamosa County, John Ross says, "I am an A.B. major in physics, but White has a Ph.D. in it and I feel he is more adequate than I am in presenting certain portions of the material. It really depends on the classes' capabilities whether I prefer the film or not. If the group is advanced enough, I like the film." Mosca is sold on the use of films as an aid to classroom teachers. Walter Stahlecker, another science teacher there, has used both the chemistry and physics films.

Mike Aguilar has eight junior and senior students in his physics class. He uses the White Physics Films, along with the written guides which he helped the RMAP prepare. Aguilar believes that the film series is an important addition to any science class. "You have to adapt the film course to the class and teach at any level of understanding that is necessary. The films are good because of the preparation which goes into their making."

At Ouray, Mrs. Oswald believes the films are not necessarily slanted only toward the better students. "I think the slower students are getting the materials better because it comes through the eye as well as the ear. Another thing I like is that students are learning to take notes . . . they 'kick' about it, but they admit it's good for them too. In some classes I would rather lecture. My students with the high IQ's say the films are too easy. I spend the first three days teaching the students to take notes before we start the films. RMAP sends out work sheets and I know most schools use them. It is understandable when the teacher isn't fully qualified. But I am not sold on them. Why should we spoon-feed the students? They don't in college. We don't use the laboratory books, either . . . my students make their own."

Twenty out of the 90 students in this high school are enrolled in the physics course. Their grades are based on four divisions . . . note-taking, laboratory work, class discussion and tests.

Don Monasmith at Simla believes the Baxter films are presented on a higher level than the ordinary high school chemistry course. He says, "Baxter brings in outside information that I couldn't possibly get to and does experiments which we can't do. We run two films a week and have laboratory twice a week. The films are teacher education too . . . they are a refresher course, and have been a great assist to me since I'm short in chemistry hours. I'm sold on the films, although I don't believe they are a complete course in themselves."

What are the advantages of film over lectures? Frank Anderson, Assistant Director, RMAP, says, "The object of the film series is to develop 'teacher teams' whereby an expert lectures on the film, while

the classroom teacher is freed to supervise experiments and to give individual help to the students." Most teachers preview the film to ready themselves for possible questions from the students. All teachers agree that the films suggest some laboratory work which otherwise wouldn't be available for the class.

The tape recorder is doing more in providing classroom and teacher flexibility than even the 16 mm projector. For instance, it is now possible for a capable teacher to be several places at once. Armando Atencio at Bennett* is teaching Typing I and Secretarial Office Practice simultaneously. By taping a class lecture prior to its delivery, Atencio accomplishes several tasks:

1. He can closely supervise his typing students while the tape recorder gives directions.
2. He can teach another class on the other side of a glass partitioned room.
3. He can be out of the room—
   a. on a field trip.
   b. on consultation.
   c. in the projection room with a film.

"The implications are numerous," says Atencio, "and it is doubtful that these two classes could have been conducted together without the aid of the tape recorder."

Drama, speech, English and history students cut permanent disc recordings at the beginning and end of the year for comparison. Their improvements become apparent to them. Students who have been absent may have the advantage of a rerun. Material is brought into the class via canned tapes, making it possible for students to hear the great and near-great of history. Students may have any part of a lecture repeated, in the event that they miss an item in the first presentation.

The high school at San Luis boasts an excellent filmstrip library. With every strip, a handbook is included so the teacher may preview each frame prior to its showing. It is effective for the teacher to record comments on a tape recorder to run in company with the filmstrip. The teacher may be elsewhere, working with others, during the actual showing.

Superintendent Jaramillo says, "I make a special effort to teach my teachers how to use technological aids. It seems to me that this very practical side of teaching is often left out and, because of it, students suffer."

RMAP teachers often deviate from the most traditional classroom procedures. They are attempting to capitalize upon the *strengths of smallness* in the necessarily existent small high schools.

*Not an RMAP school in 1959. Teacher Atencio is continuing to employ techniques which he used when associated with the project at Arriba.

A second-year typing student gets practice in an actual office situation as she learns to take dictation from a tape recorder.

Students enrolled in a university correspondence course in Spanish receive individual help from the teacher in a small high school, a school which is not large enough to provide its own staff specialist for this subject.

Correspondence Courses

Help Enrich the Curriculum

ONE girl planned on taking art in college, a subject her small high school did not offer. In order to have some background in the subject before she studies on a college level, the girl elected to take a correspondence course. A boy wanted to study Russian. With the help of a correspondence course plus a teacher-helper who has a language background, the boy made satisfactory progress. The supervised correspondence course can tip the balance in favor of the senior student who needs credit in an advanced course to enter the college of his choice.

Correspondence courses have been enriching the high school curriculum for a long time. But under

Correspondence study, with the aid of disk and tape, permits this student to take an advanced course in foreign languages during a year in which her school was unable to offer such a course.

RMAP encouragement, they are being tried out on complete classes.

Richard Cowling, a teacher at Simla, supervises a double class correspondence course, Spanish I and II. Cowling says about the courses, "I teach toward the work sheets which the college sends us. I give a six weeks' grade, based on speaking and general work. We listen to records and use the tape recorder to check our pronunciation . . . the tape recorders assist us a great deal in offering a course like this. I have eight semester hours in Spanish and I think the students are doing fairly well. Only the better students take it. The school pays the tuition and we can't afford failures so we make the effort required to develop successful individuals."

Most all teachers agree that correspondence courses can be a help . . . but they disagree on the extent to which they should be used. Superintendent Donahue at Ridgway believes, "Language by correspondence involves too much busy work. Forty pages of written work within a three-week unit is too difficult for the average student to digest. I would offer a correspondence course to a senior only if he lacked credit."

Spanish by correspondence is offered at Arriba and Superintendent Everett Holstein says, "We've had trouble with the grading. We accept university grading methods but have no opportunity to modify the grade on the basis of other factors. This area needs study."

Cowling comments, "I'd rather be qualified to teach Spanish in my own way. However, the students are learning this way. Just recently I have thought Spanish should be offered to the better students to learn on their own. The reason I suggest this is that I am qualified to teach other subjects which could be available."

And thus, even though opinions differ, correspondence courses do help to solve the puzzle of adequately educating the rural high school student.

Even art is taught by correspondence, and here the student does her assignment in sketching near the school. She is thus able to gain valuable background on a subject which will be her major in college.

Seminars Provide a Challenge

Here a noted mathematician, guest lecturer at a seminar, discusses with two students the specific application of a theory in mathematics.

IT was 7:00 p.m. when a small school bus from Kiowa, a neighboring town, pulled up in front of Simla High School. Nine students unloaded and headed for the lighted room on the second floor. Teachers, driving three more cars, brought nine Calhan students. Eight Arriba students and 11 students from Simla joined the first group in the library.

The students chatted until Sam Eccher, English teacher at Simla, called the seminar group to order. He introduced the speaker of the evening. The group applauded and then listened intently as an English teacher from neighboring Calhan began his lecture on Pragmatism and Existentialism. The subject of the evening was modern philosophy.

The students' heads dropped over their notebooks as they began taking notes from the teacher's quiet, concise information. "What is real?" he asked. "For the pragmatist, reality is just as things are experienced," he answered, and waited for the listeners to copy the definition.

What happens in this school building at a time when many children are watching television? These 37 students from four communities come together each week to form a Seminar in Ideas. According to Eccher, "The seminar is aimed at giving students a panoramic view of higher learning." The seminar is presented in five units, including literature, history, science, fine arts, and philosophy. One teacher from each school is a sponsor and prepares one unit of study. This teacher usually lectures once to the class and then arranges for a guest lecturer or a field trip related to the subject. In connection with the unit on fine arts, the students motored to Denver to visit the Denver Art Museum.

University professors and officials from the Colorado State Department of Education travel to Simla as guest lecturers. Professional people available from the community—writers, artists, ministers and lawyers—have given their time to both the seminar and to regular seminar meetings. Outstanding educators from across the United States have sent lectures on tape. Dr. Willy Ley, a rocket scientist, delivered a taped lecture on "The Future in Space." From the United Nations came a tape on "American Foreign Policy" by Dr. Ernest A. Gross, legal adviser to the late Secretary General Dag Hamerskjold. Films are also used.

The seminar is the small school's answer to what to do for the able and ambitious students. Previously, it was thought that only large school systems, which have enough money, a large student body, and ample facilities, with many youngsters, could warrant providing special programs. But the small towns simply pool their interests and resources to present more

Seminar students develop their understanding of art through a study trip to the Denver Art Museum.

challenging material to their juniors and seniors who have a "B" grade average or who show a desire for learning more than is offered in the traditional high school classroom. Sophomores are admitted if they show unusual ability. Although no credit is given for the course, study and research are required. The students themselves summarize each unit, making their own interpretation and contributing ideas which they acquire from their reading.

The seminar started in 1959 when Limon, 80 miles from both Denver and Colorado Springs, joined forces with Simla, 25 miles to its southwest. Sam Galioto, Limon's history teacher that year, pioneered the seminar, in company with Simla's Sam Eccher. Galioto put it this way, "I have always felt it was proper to train a person to the fullest extent of his ability. I have always thought the gifted students in small schools were even more neglected than gifted students in large schools."

Don Johnson, who teaches history at Arriba, says of the seminar, ". . . As to how this information transfers, I can see it in my classes. My seminar students are exposed to certain information and material. If I cover related material in my classes, invariably my seminar students will have something to add to elucidate the discussion."

Johnson continues, "One day in English we were discussing beatniks. Because one of the girls had studied existentialism in the philosophy unit at the seminar, she was able to contribute information as to the 'why' of beatnik behavior patterns."

Midway in the seminar, or after about an hour's lecture, the class breaks for refreshments. Then it is the student's turn to comment and to ask questions of the lecturer. The students attending the seminar expressed the following opinions regarding its benefit:

". . . Helps to make me think out a problem and come to a decision . . . helpful if I go on to college . . . seminars go further into the subjects than the regular school work does, and I get a broader view . . . the seminar is like an in-between-the-lines study . . . my desire to learn has increased . . . gives me practice in taking notes and sifting important from unimportant points . . . has shown me that an extensive vocabulary is needed."

According to completed questionnaires, parents are pleased with the results of the seminar. They indicate that, since participating in the seminar, their children show a greater interest in adult problems, seem to exercise more mature reasoning, and have developed a greater interest in reading. One mother wrote, "We think the seminar has been one of the most valuable things that our daughter has taken in school."

Another indicated, "Our daughter has found the seminar most interesting, stimulating and challenging."

Intense concentration is mirrored on the face of this youth as he listens to a playback of his voice in a foreign language. Thus he can compare his use of the language with the classroom teacher's or with another taped version done by a noted foreign language expert and correct his errors immediately.

Physical education activities take a different form for the boys in this small high school in the San Luis Valley. Participation in this ice hockey game can provide as many desirable benefits as one of the so-called "major" sports.

New Ideas at Work

RMAP teachers are working "beyond the call of duty" to help the rural school provide an education of recognized quality. Once you open the lid, a whole covey of experiments pops out. No longer do educators ask what can we do in spite of being small, but rather, what can we do because we *are* small.

A need for modification of methods of teaching to take advantage of the *strengths of smallness* is now recognized. As Superintendent McMillan at Silverton says, "I think RMAP has helped us not only in combining classes . . . it has opened our eyes . . . helped us depart from many types of tradition which have no real point except that it just always had been done."

With the go-ahead nod from the Colorado State Department of Education on experimentation and with some financial assistance through a grant from the Ford Foundation's Fund for the Advancement of

Education, teachers are enthusiastic about the modified methods. Morale is high and teachers and students are impressed with the number of visitors the new ideas are drawing to their classrooms.

Mosca, for instance, is located between the Sangre de Cristo Mountains and the Continental Divide. Highways on these flatlands of the San Luis Valley are as straight as a Kansas road. School buses pass numerous artesian wells. This might be called God's country, for not many people live here. Mountains in the distance seem to float. This peaceful valley is a long, long way from rocket ships, yet the ideas in the classrooms are as modern as quilted aluminum.

There is music in the halls at Mosca. Bob King is principal here. About the music he explains, "I thought I could change the students' tastes in music, so I asked the school board for a record fund. We now have about $50 invested."

Classical, semiclassical and western music plays in the background. Reading may be done to the tune of Chet Atkins' guitar; writing to Rachmaninoff's Piano Concerto No. 2; and arithmetic to Gershwin.

King continues, "We have no band program. In this way we are exposing all the students to music. I started playing records first in study hall. They groaned because it wasn't modern enough. After a while they stopped groaning and started listening. We don't tell students the name of the pieces, nor do we make them listen for any particular purpose."

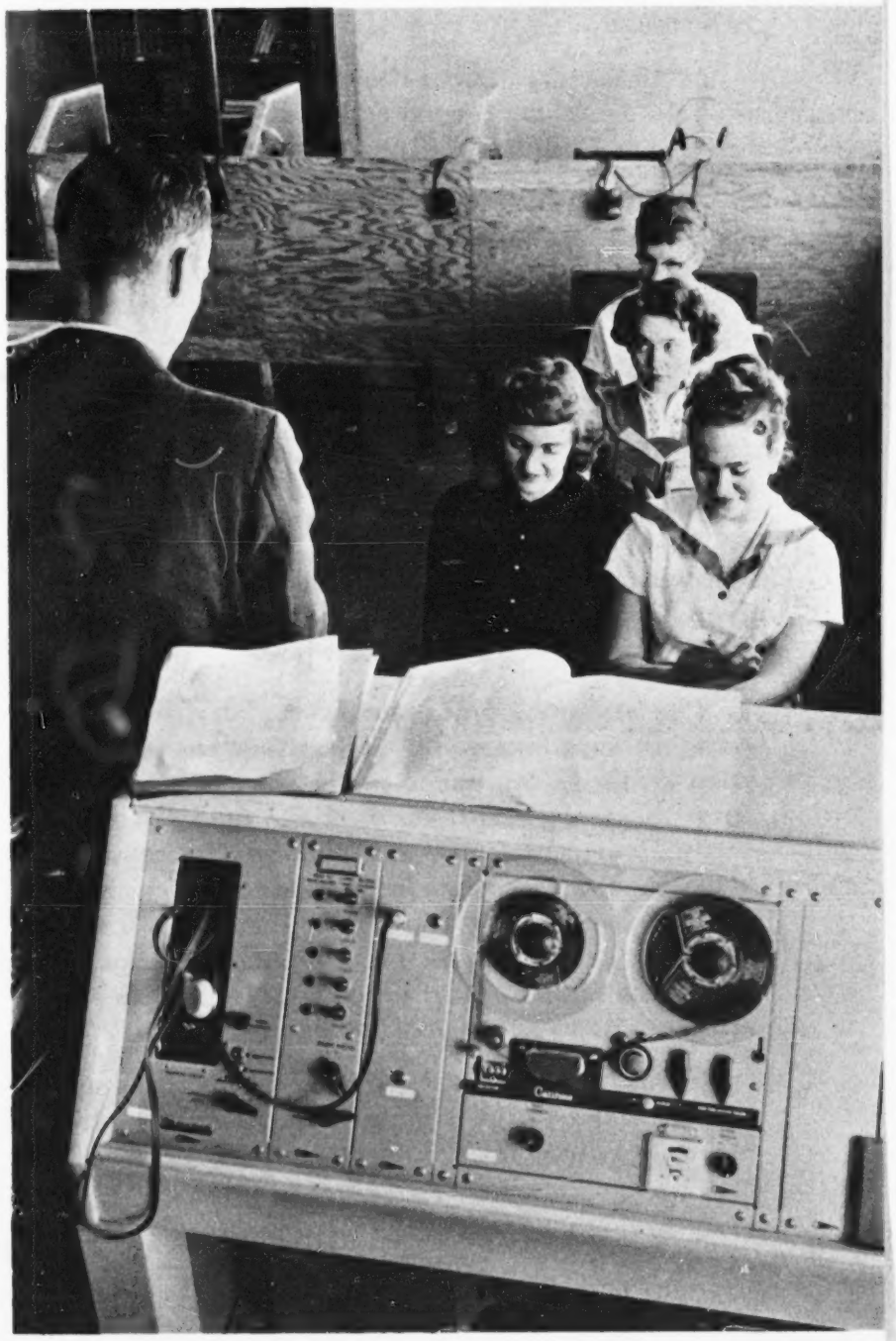
For hockey games the record player is set in the side window. Just outside, two teams battle it out to accelerated Strauss waltzes. At Mosca you will find a billiard table in the gym, the only one in a school in the state, so far as they know. There is a reason. When students can't participate in strenuous sports, they may learn to play pool.

The physical education program includes swimming. During the fall and spring seasons, students hop a bus for a hot water pool and swimming instruction 11 miles from the school. Beginning and intermediate swimming, and life-saving classes are taught, with students receiving both physical education credit and Red Cross certificates. The lecture part of the lesson is given en route so very little class time is lost. King and his wife are both qualified water safety instructors.

Four students enter the language laboratory at Mosca. Each sits in a different booth, flips a switch and opens his study guide. Two students are studying Spanish; one, French; and one, Russian. King says, "We plan to expand to ten booths. By using these methods we hope to teach any language which a student can use."

At Simla, Superintendent Stiverson is toying with the idea of utilizing school bus time as a learning situation. He plans to use tapes on a 42-mile bus

Because of technological advances, a small school is able to offer foreign languages with the aid of a language laboratory. This four-booth laboratory, in a high school of 58 students, will be expanded to 10 booths so that many students may study different languages simultaneously.



A student conductor gains experience in leading the band while the teacher moves about helping individual students.

route to provide opportunity for a variety of subjects to be taught.

At Simla, also, James Emmons, the music director, is training student conductors so that he may be freed to work individually with members of the band.

At Kremmling, Mrs. Ruth Shoffner, the teacher, checks the attendance roll and then dismisses the class to go to job exploration downtown. This school is experimenting with a vocations class. One of the girls is serving an apprenticeship in the local hospital. She thinks she may choose nursing as her vocation and she is getting a chance to try it before deciding. A boy helps the local veterinarian. This student is gaining an insight into veterinary medicine.

These juniors and seniors undergo a series of scholastic, interest, aptitude, and guidance tests. Students are surprised to discover interests and abilities which they didn't realize they had.

The beginning unit is involved with discussing the different vocations and with learning how to get and keep a job. Films, and a panel of vocational people from the town help out. Students then choose four occupations which are available in the community and then they study under realistic conditions. Each employer completes a form on the student who is working for him. These remarks aid in grading but, regardless of the grade, the student has gained valuable insight to guide his future steps.

Rural teachers are being asked to do more in less time and to do it better and, thanks to modern technology, they are doing just that!

Here a girl is preparing to observe and work in a local hospital, during school hours, as part of vocations class work designed to help her in choosing a career.

After assisting the local veterinarian, this high school vocations student will have a better understanding of the field of veterinary medicine.

Rocky Mountain Area Project Builds Morale

IN the mountain town of Ouray, called the "Switzerland of America," English teacher Mrs. Rita Paul voices her enthusiasm, "I have profited by my summer planning and by the summer workshop. I feel that I've learned a lot from meeting other teachers on the same level. Also, I've benefited from inspirational speakers above my level who hold Ph.D.'s

A summer workshop, where RMAP personnel and teachers gather with consultants, provides an opportunity to exchange ideas, discuss problems, and produce materials designed for use in small schools.

from all over the U.S. There is no other comparable teachers' meeting . . . not even summer school . . . from which I've gotten so much practical help."

Superintendent C. L. Kinney of Ouray says, "I think RMAP has been a contributing factor in stimulating students to do more. We allow the better students to take more and advanced courses . . . and other students want to emulate them."

In the neighboring town of Ridgway, the superintendent is enthusiastic about RMAP practices in his school. James Donohue is a dynamic leader whose teachers respect him. They marvel at his energy and ideas. Donohue states, "I feel the Project has allowed the teacher to grow as a teacher . . . encouraged him to think . . . get out of old ruts. We're able to provide more of what the individual needs."

How has RMAP helped Centennial Union? Principal Conrad Romero puts it this way, "It has been an advantage to be able to visit other schools in action. This just isn't done normally. Also, whenever you do something experimental, you have to back up what you say, have to plan and document. This leaves you better off. Any good work that is done is never lost. It is to your advantage."

At Silverton, Superintendent H. M. McMillan says, "My Project teachers are much better teachers for having participated in the Project. It has made for better schools so far . . . it should be a great boon to people from other small schools. The speakers and consultants whom RMAP brings in have opened our eyes to new and perhaps better ways of teaching. It is a definite step forward. I think this program has implications for large schools when it is completed . . . the move in some large schools now is to make the classes smaller rather than larger."

A frequent question asked is: Do these practices overwork the teacher? McMillan answers, "I don't

feel that we are overloading them. In certain schools, teachers are expected to teach and work with 40 students in a classroom. In our school we have eight taking one subject and six taking another. If we separate the dual classes, the number would be so small we certainly wouldn't be effectively utilizing the teacher's time. I think it takes a better than average teacher to do a good Project job—but isn't this true of any class?"

Asked the question, "Are teachers overworked?" Silverton teacher Earl Barrick answered, "Well, only the first year actually . . . and we are paid for planning. In commercial subjects, we use last year's plans with a little revision. I think double classes keep a teacher more alert . . . they're no hardship. I have a single class of six students which is harder on me than my 19 in the multiple situation. It depends on the students and the subject matter."

About overwork, Ralph G. Bohrson, RMAP Director, makes the following statement: "It is difficult to identify conditions of overwork if one counts *only* the number of subject preparations. The reason is related to the whole action of teaching which can be broken into three parts:

1. Preparation (lesson plans, courses in college, etc.).
2. Presentation (lecture to class, films, work with individuals).
3. Follow-up (grade papers, out-of-class conferences).

"Now, ideally if a teacher prepares for the individual needs of each student, his presentation and follow-up must likewise be accomplished with individuals. If this is done properly, there is no more likelihood of overwork for the teacher preparing for a multiple class (two subjects of, say, 10 students each equals 20 individuals) than there is for the teacher of a large school with 25-40 in one classroom. Work load might better be considered in terms of type of subject taught and *total* pupil-teacher contacts rather than by *number* of subject preparations.

"If this formula is followed it *may* be that certain multiple class teachers *could* be overworked, particularly if their follow-up activities call for correcting many written assignments. On the other hand, many may be merely producing nearer to expected capacity."

Everett Holstein of Arriba says, "We have enriched our curriculum by offering the multiple classes. I think students learn as much as they do in single classes . . . standardized tests show no difference. Teacher attitude and planning are important."

Richard Cowling teaches Spanish at Simla and says, "The best thing that comes from RMAP is that we do meet teachers with new and good ideas. We look forward to Project meetings. We meet teachers with lots of sensible ideas that work. Even teachers in a different subject line might have something we can use."

General opinions from most of the RMAP personnel suggest that the Project is giving teachers an opportunity to provide adequately for student needs through the use of technology, rescheduling, and small group techniques. Many of these techniques have been in practice but RMAP has made the first attempt in Colorado to identify them clearly as useful for small schools.

Mrs. Eunice Whyte of Simla says, "My combined Algebra and General Mathematics class has been a challenge to me and has given me more of a sense of accomplishment. Teachers like to be challenged, too. There is nothing else like a Project workshop as far as new ideas are concerned."

Paul Nachtigal is superintendent of schools at East Grand County High School, Kremmling. His office is a favorite gathering spot for conversations on everything, including education in the atomic world. Nachtigal believes, "The Project has been one of the finest things that has happened to our school. The teachers have gone out of their way on planning . . . yes, the pay is an incentive, but my teachers have put in much more time and effort than they have been paid for. Teachers like being identified with a certain group . . . they are pleased that an outside influence has come in to recognize them and their small school. Our school board has been willing to sanction unusual practices in the school because of the Fund for the Advancement of Education and Colorado State Department of Education backing. These are respected institutions."

At Simla, Superintendent Stiverson offers, "Teachers like the idea of educational exploration . . . administrators like it . . . it has been a type of organization enabling administrators to get together with others who have the same problems and geographical location. There is an exchange of fine ideas . . . the best meeting administrators attend."

Stiverson goes on to say, "Man's greatest contributions to the world were the zero and the wheel. They were always here but we had to find them. Somewhere there are techniques and tools to solve our teaching problems. We're exploring these. I am grateful to the Fund for the Advancement of Education for encouraging exploration . . . I am sure we will find techniques to allow us to provide breadth of learning."

RMAP personnel demonstrate their teaching techniques via closed circuit television to a group of Colorado and Wyoming educators gathered in a nearby room. The use of new and better means of instructional equipment plays an important part in the project.

What Do Evaluators Say?

"It is highly recommended that Project classes be continued. Because many valuable outcomes were observed during our visits, it is further recommended that other small schools be encouraged to participate in the Project."

THESE are the words of a team of evaluators (college professors) from Colorado State College who recently gave a recommended go-ahead to the group of isolated Colorado high schools participating in the RMAP.

At the end of the second year of the experiment, Project personnel began to wonder how closely they were approaching their goals. Their reports suggest that they are going in the right direction but encourage more detailed study to determine the extent to which they have progressed. Teachers and administrators were optimistic regarding their findings. They thought, however, that they were too close to the Project to judge objectively so they called in experts in the field of education, people who were well-versed in statistics and methods of measurement as well as in psychology. These skills are important for persons who deal with human beings.

The observation teams consisted of graduate students and faculty members from the college's Department of Educational Psychology and Guidance. These persons acted as consultants. The teams visited RMAP schools and classes to observe and to interview teachers, administrators, and students. The report of these teams is necessarily descriptive rather than evaluative. It is difficult to evaluate humans.

The observation teams were concerned with techniques and their potential or actual influence on the teaching-learning process. They reported a general feeling of interest and enthusiasm among the teachers, the students, and the administrators, and according to administrators, among parents and the general public. Evidence of public reaction was summarized by an administrator: "The Project has aroused general interest in the community. I'm not so sure this was all so much from specifically what we are doing as from a feeling that the schools are trying to do *something* about their problems."

The observation teams said, "What is happening to the teachers as a result of involvement in the Project may, in the long run, prove to be more significant in improving instruction than any changes in student achievement which might eventuate from the use of these techniques during any particular year." They reported also that the new attitudes, insights, and new ways of viewing the teaching-learning

process would, in all probability, not end with the ermination of the Project but would tend to extend heir influences on the teacher to other classes in uture years.

At the beginning of their visitation, the evalu- tors wondered, "The reactions of the students are o universally favorable . . . we wonder if they are enuine or just given for our benefit?" At the end f many observations, they concluded: "We are be- oming convinced that the students are expressing heir true feelings. They seem free to suggest improve- nents."

The evaluation teams reported many valuable utcomes from their observations. Paraphrased and n brief they had this to say:

• **Multiple classes** enrich a small school's urriculum and use a teacher's time more effectively. Double classes demand an efficient teacher ecause of the added planning required.

• **Scheduling** longer periods provides study under he direction of the subject teacher and allows the eacher to give additional help to slow students nd more challenging assignments to advanced tudents. The teacher presents more significant units f study and the needs of all are more fully met. The "floating period" provides time for extra- urricular activities, but not at the expense of cademic subjects. It does away with the traditional tudy hall and evils thereof. It reduces the work load f both teacher and student. In most instances, he extended instructional period and "floating" chedule receive particular and unqualified approval.

• **Small group techniques** allow instructors to ive individual help and stimulates them profession- lly because of the variety of problems. Small groups llow pupils to work at their own levels of ability nd speed and to use limited equipment efficiently.

• **Film courses** assist in increasing the curriculum fferings and the improvement of instruction when qualified teacher is not available. The films free qualified teacher to give more individual attention o the students. Students who were exposed to the ilms asked for more discussion, more laboratory ork, and extended class periods.

• **Recordings** are an aid to both students and eachers. Lectures may be taped by the teacher . . . iscussions, by the students . . . and the voice of ne master teacher or a foreign language may be rought into any remote classroom.

• **Community resources** are brought into the hool by the use of professional and semi-professional ersons to supplement textbook material. n-the-job activities are provided where students ay actually receive in-service training in the ocation of their choice.

• **Correspondence courses** can be effectively supervised either individually or within the organization of a regular or double class. They are used to enrich the curriculum and provide courses which otherwise could not be offered.

• **Seminars** are the small schools' technique in providing an enriched program considerably beyond that possible in the classroom.

• **Teachers** are enthused over the added opportunity to plan for both the effectiveness of the techniques and the additional pay.

• **Student** response is favorable. They like being more on their own and they enjoy using technological equipment. They like being treated as adults and receiving individual attention.

In another, less extensive evaluation, visiting teacher teams from Calhan, which is Simla's neighbor, had this to say, "Our visit left us with the distinct notion that Simla had gone far in recognizing and correcting the perennial problems besetting the small school. We were impressed by the results of what appeared to be a concerted effort to meet, in any way at their command, the needs of the youngsters."

The Colorado State Department of Education holds the viewpoint that the RMAP is significant for two reasons:

1. It is demonstrating that positive and creative thinking can provide solutions not achieved through outdated criticism or local defensiveness.
2. The project personnel have shown that research must be followed by programs which help spur the research findings into action.

An aggressive state department for the 60's and 70's must be aware of these approaches. It must be said that the RMAP represents only a small fragment of the activity which is going on in schools whose function it is to prepare youngsters for a free adult society. Much careful research is being conducted in other fields and many important discoveries yet unpublicized will surely influence the nature of the small school and of rural America.

The RMAP program is strong—not so much because it solves all problems of all schoolmen—but rather because it is combining the best knowledge of the past with the solid research of the present. And its applications are to those tough problems of a sometimes overlooked segment of America—the rural resident.